








Work Order ID 65354

January 12, 2011 2:35:54 PM

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Item ID:	D4186-1	Accept		Setup	Start	
Revision ID:	PRELIM				Stop	
Item Name:	Shaft					
Start Date:	1/12/11	Start Qty: 2.00		Cust Item ID:		
Required Date:	1/28/11	Req'd Qty: 2.00		Customer:		


Reference:


Approvals:	Process Plan: <u>CL</u>	Date: <u>11/01/12</u>	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D4186	PA1 <u>PA3</u>								

100	Hardinge CNC LATHE SMALL	0.00							
									
Doosan	Memo	0.00							
Doosan Lathe	1-TURN AS PER FOLIO FB032 & DWG FOLIO REV: <u>NA</u>								
	DWG REV: <u>PA4</u>								
	2-DEBURR AS REQUIRED								

110	QC2- Inspect parts off machine FAI/FAIB	0.00							
									
QC	Memo	0.00							
Quality Control									

120	QC8- Inspect parts - second check	0.00							
									
QC	Memo	0.00							
Quality Control									

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY
CL 11/03/15

PRELIMINARY ISSUE



(42)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____






NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



NOTE: Date & initial all entries



Work Order ID 65354

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January 12, 2011 2:35:54 PM

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Revision ID: PRELIM Stop 
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Required Date: 1/28/11 Req'd Qty: 2.00  Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start 
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  Packaging	Identify as per dwg & Stock Location: Memo <i>Pulled on P4186-041</i>	0.00 0.00							
140  QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							<i>2</i> <i>11-03-18</i> <i>CZ 11/03/23</i>

POSITIVE RECALL
EFFECTIVE *11/02/23* AUTH *[Signature]*
RELEASED _____ DATE _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

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Page 1

Work Order ID: 65354

Parent Item: D4186-1

Parent Item Name: Shaft



Start Date: 1/12/11

Required Date: 1/28/11

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A NEW ISSUE 11-01-07 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NB0.500X03.00 0		Purchased	No				f	75.9750	0.15	0.315789			



4430 Bar 0.500 x 3.00



11/3/14

M303R.500
Jan 11-03-14

Location

Loc Qty

Loc Code

MAT

51.975

115686

4.725

116179

47.25

MAT034

24

114044

24

116353

3/58

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

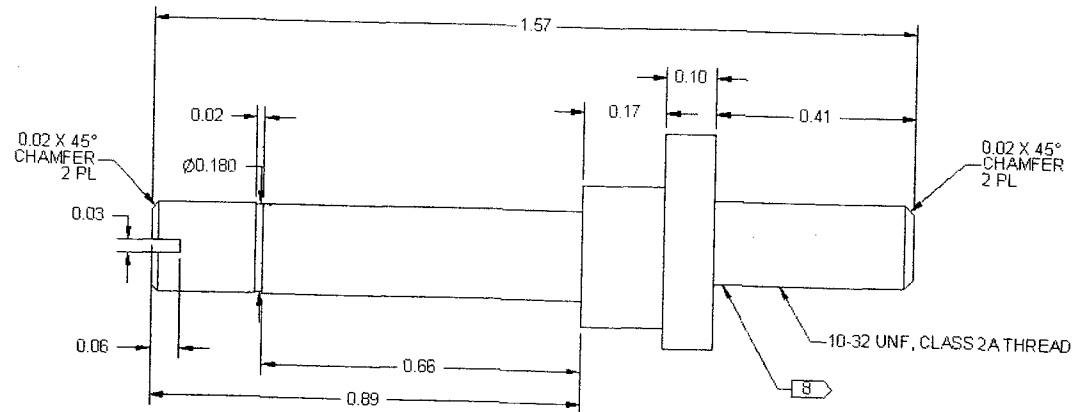
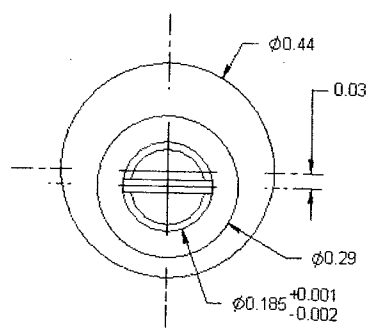
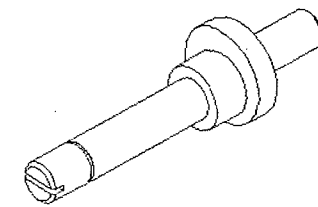
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

w/065354



D4186-1 SHAFT

NOTES:

- 1) MATERIAL: AISI 303/304/316 STAINLESS STEEL ROUND BAR
REF DART SPEC M303R OR M304R
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs
- 8) THREAD TO WITHIN 0.10 OF FLANGE

PRELIMINARY ISSUE
10.09.20

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA4
MFG. APPR.		D4186	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		ECCENTRIC	NTS
DATE	10.09.20	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DART AEROSPACE LTD		Work Order: 65354
Description: <i>Shell</i>		Part Number: 14186-1
Inspection Dwg: 14186 Rev: <i>141</i>		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<i>Ø.44</i>	<i>±.030</i>	<i>Ø.441</i>	<i>/</i>		<i>W/c</i>	<i>SA-9</i>
<i>Ø.29</i>	<i>±.030</i>	<i>.288</i>	<i>/</i>			
<i>Ø.185</i>	<i>+0.001/-0.002</i>	<i>.184</i>	<i>/</i>		<i>Mic</i>	<i>SA-5</i>
<i>.034</i>	<i>±.030</i>	<i>.03</i>	<i>/</i>			
<i>.03</i>	<i>±.030</i>	<i>.03</i>	<i>/</i>			<i>SA-9</i>
<i>.06</i>	<i>±.030</i>	<i>.06</i>	<i>/</i>			
<i>.89</i>	<i>±.030</i>	<i>.89</i>	<i>/</i>			
<i>.66</i>	<i>±.030</i>	<i>.66</i>	<i>/</i>			
<i>Ø.180</i>	<i>±.010</i>	<i>Ø.180</i>	<i>/</i>			
<i>.02</i>	<i>±.030</i>	<i>.030</i>	<i>/</i>			
<i>1.57</i>	<i>±.030</i>	<i>1.577</i>	<i>/</i>			
<i>.17</i>	<i>±.030</i>	<i>.17</i>	<i>/</i>			
<i>.10</i>	<i>±.030</i>	<i>.106</i>	<i>/</i>			
<i>.41</i>	<i>±.030</i>	<i>.410</i>	<i>/</i>			
<i>10-32 UNF 2A</i>	<i>N/A</i>	<i>10-32 UNF 2A</i>	<i>/</i>			

Measured by: <i>SA</i>	Audited by: <i>S</i>	Prototype Approval:
Date: <i>11/3/14</i>	Date: <i>11/03/14</i>	Date:

inspector to pay Dwy only

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

Receiving Report

Date: 10/12/07
 Supplier: MARMA

Batch No: M116353
 Dart P/O: 13058

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☒ No ☐ N/A ☐
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC6 Inspection 10/12/07 N/A ☒
 Work Order N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin:
 Date
 Received/Costing
 Initial

Location

Purchase Order Receipt Listing

Page 1 of 1

Tuesday, December 07, 2010 2:37:10 PM

All amounts are calculated in domestic currency.

All Vendors PO ID PO13058 Receipt Dates from 12/7/2010 to 12/7/2010 All Line Item Types

All Item ID/GL/WOs All Rec. Employees All Currencies

Grouped by Vendor ID

[illegible]

**Marmon/Keystone Canada Inc.**

ACIERS SPÉCIALISÉS

290 Chemin du Tremblay
Boucherville QU CAN J4B 5X9
TEL. 514/527-9153
FAX. 450/641-4357PAGE... 1
Order : 1095718
Date... 12/06/2010

PACKING SLIP

SOLD TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIPPED TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIP VIA		F.O.B.	SALESPERSON	YOUR ORDER NO.	
TST OVERLAND #222212		BOUCHERVILLE	G. Dulude	13058	
Ordered	Description	Number Pieces	Quantity Shipped	Back Ordered	
01	Fax all papers to Linda Lacelle 613-632-1053 Mill tests required with all shipment STAINLESS ROUND BAR SBR .500 CD 303 Cust. part#.: M303R0.500 HT#..... 7KJ3 Total... rev:08/08	4 4	48/FT 4 IN 48/FT 4 IN		
02	STAINLESS ROUND BAR 304L STAINLESS CD ROUND BAR 3/4" A276 SBR .750 CD 304L Cust. part#.: M304R0.750 HT#..... 250408 Total...	1 1	12/FT 2 IN 12/FT 2 IN		

No. of Bcls/Pieces

1 / 0

Total Weight.....

50

Customers.: _____



A Marmon Distribution Services/Berkshire Hathaway Company



METALLURGICAL TEST REPORT

582 500 CD 303
NORTH AMERICAN STAINLESS
6870 HIGHWAY 42 EAST
GHENT, KY 41045

6870 HIGHWAY 42 EAST

Certificate: 590987 3

Customer: 007080 004

Mail To:
MARION KEYSTONE CANADA, INC.
C/O STEELCORE
400 LONGWOOD ROAD SOUTH
HAMILTON, ON L8P4Z3

Ship To:
MARION KEYSTONE CANADA, INC.
C/O STEELCORE
400 LONGWOOD ROAD SOUTH
HAMILTON, ON L8P4Z3

Date: 10/06/2010 Page: 1

Steel 303

Finish: CD

Your Order: VN7053

NAS Order: PN 0010524 06

Corrosion:

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
ASTM A582/05 EN 10204 3.1, ASTM A484/08
AMS 5640U TYPE 1, QQS-764B CONDITION A

REMARKS:

COMPLIES W/REQUIREMENTS OF DFARS EU DIRECTIVE 2002.95.
EC. ROHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG IN USA
FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

amb 10/12/07

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BD2903 8		.5000		1,108	144.00	3	1	

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

HEAT	CM	C	CO	CR	CU	MN	MO	N	NI	P
7KJ3	US	.0605	.1080	17.2295	.3775	1.7945	.2725	.0441	8.7185	.0305
		S	SI							
		.3175	.3600							

MECHANICAL PROPERTIES

Product Id	l d	o i	HB	.2YS	UTS	RA	Elong
	c r		No.	KSI	KSI	%	% 4D
BD2903 8		R L	189.00	73.20	99.48	28.13	23.50

MARION / KEYSTONE
Q.C. REVIEWED
DATE 10/20/10 INITIAL JA

NAS hereby certifies that the analysis on this certification is correct and the material meets the specifications stated.

QC ENGINEER

Eric Hess
ERIC HESS

10/06/2010

SRK-
-500-
-CD
-303 * /KJ3 * 1005005 * VN/053 * 10/20/2010



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO13058

Purchase Order Date 12/03/10

PO Print Date 12/03/10

Page Number 1 of 1

Order From :

VC-MAR001

MARMON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

800 361 8142

450 641 4357

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED
12/13/10

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	M303R0.500	303 Round Bar 0.500"	12/07/10 Yes	48.00 f	TST ground	\$1.7200	\$82.56
2	M304R0.750	304 SS Roundbar .750	12/07/10 Yes	12.00 f	TST ground	\$3.7000	\$44.40

Special Inst: MATERIAL: AISI 303 SS ROUND BAR
NOTE: AISI 304/316 NOT ACCEPTABLE

Special Inst: MATERIAL: AISI 304/316 SS ROUND BAR
NOTE: AISI 303 NOT ACCEPTABLE

PO Total:

\$126.96

12/14/10

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**

u cl

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 12/03/10